INTERIM RELIEFS IN THE AGE OF SMART CONTRACTS TECHNOLOGY

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Abstract

Contractual behaviour of the parties in construction contracts is fundamentally influenced by the availability and effectiveness of the remedies which might be obtained during the contract in court or by arbitral proceedings to ensure the proper and timely performance of the contractual obligations. In particular, the interim reliefs can play an important role in preventing and correcting any possibly abusive behaviour of the parties, as well as in maintaining throughout the contracts of the contractual balance established by the parties at the outset of the construction contracts. The paper analyses the interim reliefs currently used in construction contracts in Romania, the relation between the contractual behaviour of the parties and the length of interim reliefs proceedings, and how the interim reliefs might look in the near future, in the age of smart contracts technology.

Keywords: *construction contracts, interim reliefs, first demand guarantees, smart contracts technology, online dispute resolution (ODR).*

1. Introduction

Contractual behaviour of the parties in construction contracts is fundamentally influenced by the availability and effectiveness of the remedies which might be obtained during the contract in court or by arbitral proceedings to ensure the proper and timely performance of the contractual obligations. In particular, the interim reliefs can play an important role in preventing and correcting any possibly abusive behaviour of the parties, as well as in maintaining throughout the contracts of the contractual balance established by the parties at the outset of the construction contracts.

This paper analyses the jurisdiction of courts to settle the disputes resulted from the standard construction and engineering contracts currently used in Romania**,** the available interim reliefs procedures, the correlation between the duration of the proceedings and efficiency of the interim measures procedures, and how interim reliefs would be adapted in order to respond to the new needs and challenges created by the adoption of new technologies in the construction industry.

2. Standard construction and engineering contracts currently used in Romania and jurisdiction of courts to settle the disputes resulted therefrom

The most widely used form of construction contracts in Romania in private construction and engineering projects are the contracts in the FIDIC suite 1st Edition (1999) and 2nd Edition (2017), in particular the Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer (the "Red Book"), and Conditions of Contract for Plant and Design-Build for Electrical and Mechanical Plant and for Building and Engineering Works Designed by the Contractor (the "Yellow Book").

In public projects the use of FIDIC conditions of contracts was mandatory for the public authorities for a certain period.

By the Government Decision no. 1405/2010 *regarding the approval for the use of some conditions of contract of the International Federation of Consulting Engineers (FIDIC) for the investment objectives from the field of transportation infrastructure of national interest financed by public funds* ("G.D. no. 1405/2010") it was imposed to all the units subordinated or under the authority of the Ministry of Transportation and Infrastructure the obligation to use the General Conditions of Contract of FIDIC Yellow Book or Red Book at the execution of public works.

On 1 March 2011, the Ministry of Transportation and Infrastructure issued Order no. 146/2011 *regarding the approval of particular conditions of contract for plant and design build, and for building and engineering works designed by the employer of the International Federation of Consulting Engineers (FIDIC) for the investment objectives from the field of transportation road infrastructure of national interest financed by public funds* ("Order no. 146/2011"), whereby it approved standard forms of particular conditions of contract, appendix to tender and contract agreement for execution of public works. Later on, Order no. 146/2011 was amended by Order no. 600/2017 *for the amendment of annex no. 1 of the Ministry of Transportation and Infrastructure's Order no. 146/2011 regarding the approval of particular conditions of contract for plant and design build, and for building and engineering works designed by the employer of the International Federation of Consulting Engineers (FIDIC) for the investment objectives from*

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the field of transportation road infrastructure of national interest financed by public funds, issued by the Ministry of Transportation on 13 May 2017, effective as of 13 June 2017.

However, the FIDIC standardised forms were replaced in 2018 by the national standard construction contracts conceived by the Romanian Government, by the Government Decision no. 1/2018 *for the approval of general and particular conditions of contract for certain categories of public procurement contracts related to the investment objectives financed by public funds.* These construction and engineering forms of contracts not only replaced the former standardised public procurement contracts based on FIDIC conditions of contract, which were mandatory for the road and railway infrastructure works only, but also extended their applicability to all the investment objectives financed by public funds.

As far as the courts which have jurisdiction to settle the disputes resulted from such standard construction and engineering contracts is concerned, three (3) situations can be encountered:

a) The dispute shall be finally settled under the Rules of Arbitration of the International Chamber of Commerce (the "ICC"), the court vested with the administration of the arbitral cases being the ICC International Court of Arbitration;

b) The dispute shall be finally settled under the Rules of Arbitration of the Court of International Commercial Arbitration attached to the Chamber of Commerce and Industry of Romania;

c) The dispute shall be finally settled under the rules of Law no. 101/2016 *regarding the remedies and ways of appeals in the field of the award of public procurement contracts, sectoral contracts and works and service concession contracts, as well as for the organization and functioning of the National Council for Complaints Settlement* ("Law no. 101/2016") and Romanian Civil Procedure Code by the civil sections of state tribunals.

It is noteworthy that, in principle, jurisdiction to settle the applications for interim reliefs lies with the courts which, according to the contract, have jurisdictions to settle the substantive merits of the disputes.

3. Interim reliefs procedures currently available in Romania for the matters resulted from performance of standard construction and engineering contracts

3.1. The emergency arbitrator procedure under the Rules of Arbitration of the International Chamber of Commerce

Pursuant to Article 29 and Appendix V – *Emergency Arbitrator Rules* of the ICC Rules of Arbitration entered into force on 1 January 2021, a party that need urgent temporary relief that cannot await the constitution of an arbitral tribunal may make an application in this regard to the Secretariat of the ICC International Court of Arbitration.

Only parties that are signatories to the arbitration agreement that is relied upon for the application or successors to such signatories may recourse to the emergency arbitrator procedure. The emergency arbitrator procedure cannot be used if: (i) the arbitration agreement under the ICC Rules of Arbitration was concluded before 1 January 2012, (ii) the parties have opted out of the emergency arbitrator procedure; or (iii) the parties have agreed to another pre-arbitral procedure that provides for the granting of conservatory, interim or similar measures.

If and to the extent that the President of the ICC International Court of Arbitration considers, on the basis of the information contained in the application for interim measures, that the conditions required by the ICC Rules of Arbitration for recourse to emergency arbitrator procedure are satisfied, the Secretariat of the ICC International Court of Arbitration shall transmit a copy of the Application and the documents annexed thereto to the responding party.

Thereafter, the President of the ICC International Court of Arbitration shall appoint an emergency arbitrator within as short a time as possible, normally within two (2) days from the receipt of the application for interim measures by the Secretariat of the ICC International Court of Arbitration.

Once the emergency arbitrator has been appointed, the Secretariat shall so notify the parties and shall transmit the file to the emergency arbitrator.

The emergency arbitrator shall establish a procedural timetable for the emergency arbitrator proceedings within as short a time as possible, normally within two (2) days from the receipt of the file from the Secretariat.

The emergency arbitrator shall conduct the proceedings in the manner which the emergency arbitrator considers to be appropriate, taking into account the nature and the urgency of the application. In all cases, the emergency arbitrator shall act fairly and impartially and ensure that each party has a reasonable opportunity to present its case.

Pursuant to Article 29 para. (2) of the ICC Rules of Arbitration, the emergency arbitrator's decision shall take the form of an order. The order shall be made no later than fifteen (15) days from the date on which the file was received by the emergency arbitrator. The President of the ICC International Court of Arbitration may extend the time limit pursuant to a reasoned request from the emergency arbitrator or on the President's own initiative if the President decides it is necessary to do so.

According to Article 29 para. (3) of the ICC Rules of Arbitration: *"The emergency arbitrator's order shall not bind the arbitral tribunal with respect to any question, issue or dispute determined in the order. The arbitral tribunal may modify, terminate or annul the order or any modification thereto made by the emergency arbitrator."*

3.2. The emergency arbitrator procedure under the Rules of Arbitration of the Court of International Commercial Arbitration attached to the Chamber of Commerce and Industry of Romania

Pursuant to Article 40 para. (3) and Annex II – *Emergency Arbitrator* of the Arbitration Rules of the Court of International Commercial Arbitration of the Chamber of Commerce and Industry of Romania entered into force on 1 January 2018 ("CCIR Rules of Arbitration"), a party that need urgent temporary relief that cannot await the constitution of an arbitral tribunal may apply for appointment of an emergency arbitrator.

After the receipt of an application for the appointment of an emergency arbitrator, the Secretariat of the International Commercial Arbitration of the Chamber of Commerce and Industry of Romania shall send the application to the other party.

The President of the Court of International Commercial Arbitration of the Chamber of Commerce and Industry of Romania shall appoint an emergency arbitrator within 48 hours from receipt of the application by the Secretariat of the said Court.

Once an emergency arbitrator has been appointed, the Secretariat shall promptly inform him about this circumstance and shall refer the file to the emergency arbitrator.

According to Article 7 of Annex II – *Emergency Arbitrator* of the CCIR Rules of Arbitration, within two days from its appointment, the emergency arbitrator shall establish an interim procedural timetable and also decide with respect to the need to provide security, as well as with respect to the period in which the party against which the interim or conservatory measure is requested may submit its answer to the request.

Pursuant to Article 7 of Annex II – *Emergency Arbitrator* of the CCIR Rules of Arbitration, the emergency arbitrator's decision shall take the form of a procedural order.

Any procedural order with respect to the interim or conservatory measures shall be issued no later than ten (10) days from the date when the appointment was communicated to the emergency arbitrator by the Secretariat. The President of the of International Commercial Arbitration of the Chamber of Commerce and Industry of Romania may extend this period upon the reasoned request of the emergency arbitrator.

The procedural order of the emergency arbitrator shall be binding upon the parties when rendered.

The arbitral tribunal is not bound by the procedural order or by the reasons held by an emergency arbitrator and may amend or cancel the interim or conservatory measures taken by the emergency arbitrator.

3.3. Inadmissibility of the emergency arbitrator procedure under the Romanian law (Civil Decision no. 76/2019 of the Bucharest Court of Appeals)

In 2019, the Bucharest Court of Appeals rendered the Civil Decision no. 76[1] whereby it annulled a procedural order issued by an emergency arbitrator under the CCIR Rules of Arbitration, considering that the emergency arbitrator procedure contravenes to the Romanian imperative legal provisions and public policy, pursuant to the Romanian Code of Civil Procedure the state courts having exclusive jurisdiction to hear requests for provisional measures and interim reliefs before the constitution of an arbitral tribunal.

In this regard, the Court found that, in principle, the parties are free to establish procedural rules for conducting the arbitration proceedings, as long as such rules do not contradict imperative legal provisions or public policy.

However, as it results from the provisions of Article 585 of the Romanian Civil Procedure Code, before or during the arbitration proceedings, the jurisdiction to settle the applications for interim or conservatory measures belongs to the state tribunal in whose area the arbitral tribunal is seated, while during the arbitration proceedings, such applications can be settled either by the state tribunals or arbitral tribunals, at the claimant's choice.

In view of the aforementioned arguments, the Bucharest Court of Appeals emphasized that *"establishment of a special proceeding which would allow to an emergency arbitrator to settle the applications having as object interim measures/conservatory measures before the initiation of the arbitration proceedings represents a derogation from the imperative provisions of art. 585 para. 1 and 4 of the Civil Procedure Code, which is forbidden by the provisions of art. 541 para. 2 of the Civil Procedure Code."*

It is noteworthy that the considerations of the Bucharest Court of Appeals' Decision no. 76/2019 are applicable not only to the procedural orders issued by an emergency arbitrator under the CCIR Rules of Arbitration, but also to any other orders issued by an emergency arbitrator under any other rules of arbitration, whenever by the arbitral agreement the seat of arbitration has been chosen to be in Romania.

3.4. Interim and conservatory measures adopted during the arbitration proceedings under the Rules of Arbitration of the International Chamber of Commerce

Pursuant to Article 28 of the ICC Rules of Arbitration entered into force on 1 January 2021, once the arbitration proceedings have started, and the arbitration tribunal received the file from the Secretariat, at the request of any party, the arbitral

[1] Please refer to Court case no. 2739/2/2019 - National Company for Administration of Roads Infrastructure v. JV Copisa Constructora Pirenaica S.A. - Copisa Construcţii S.R.L.

tribunal may order any interim or conservatory measures it deems appropriate and may make the granting of any such measure subject to appropriate security being furnished by the requesting party.

Any such measure shall take the form of a reasoned order, or of an award, as the arbitral tribunal considers appropriate.

During the arbitration proceedings, the parties may also apply for interim or conservatory measures to any competent judicial authority.

The ICC Rules of Arbitration do not provide a mandatory time frame in which the arbitral tribunal should issue the order/award regarding the interim or conservatory measures, the length of such procedure depending mainly on the availability of arbitrators.

3.5. Interim and conservatory measures adopted during the arbitration proceedings under the Rules of Arbitration of the Court of International Commercial Arbitration attached to the Chamber of Commerce and Industry of Romania

Same as in situation of the ICC Rules of Arbitration, the arbitral tribunals constituted under the CCIR Rules of Arbitration may grant at the request of any interested party any interim or conservatory measures that it deems appropriate. In this regard, the arbitral tribunals have the power to order the party requesting an interim or conservatory measure to provide the necessary security in connection with the measure requested.

In any case, pursuant to the provisions of Article 40 para. (4) of the CCIR Rules of Arbitration, a request for interim or conservatory measures referred by a party to a state court is not incompatible with the arbitration agreement or with the CCIR Rules of Arbitration.

Similar to the ICC Rules of Arbitration, the CCIR Rules of Arbitration do not provide a mandatory time frame in which the arbitral tribunal should issue the order/award regarding the interim or conservatory measures, the length of such procedure depending on the availability of arbitrators.

3.6. Injunction order issued by the state courts

Pursuant to Article 585 of the Romanian Civil Procedure Code before or during the arbitration proceedings, the parties may request to the tribunal in whose area the arbitral tribunal is seated to grant interim or conservatory measures by way of an application for injunction order (in Romanian *"Ordonanță președințială"*). The parties may also recourse to such an application for an injunction order whenever pursuant to the contractual provisions the state courts have jurisdiction to settle the disputes resulted from the construction and engineering contracts.

According to Article 997 of the Civil Procedure Code there are several conditions which need to be fulfilled to application to an injunction order to be approved:

a) Likelihood of success on the merits (*fumus boni iuris*) - which requires the party requesting interim relief to show a reasonably arguable case or a reasonable probability of prevailing on the merits;

b) Risk of irreparable harm (*periculum in mora*) - this condition requires that relief may be granted only if the applicant demonstrates that it may suffer "irreparable" damage or injury in the absence of such injunction order;

c) Emergency of matter which led to the application for injunction order;

d) No prejudgment on the merits of the dispute - the application for an injunction order cannot deal with the substantive merits of the case.

The parties will be summoned in accordance with the rules on summons in urgent proceedings, and the defendant shall be provided with a copy of the application and of the supporting documents. However, the Civil Procedure Code do not set a mandatory, fixed time frame for such summons in urgent proceedings, the urgency of the matter being determined by the judge on a case-by-case basis.

In situations of extreme urgency, the injunction order may be rendered on the same day the application is received by the court, with the court issuing its decision in writing, *ex-parte*, without a hearing.

Pursuant to the provisions of Article 999 para. (3) of the Civil Procedure Code, the application must be settled "urgently" and "with priority", not being admissible the evidence whose administration requires a long time. The issuance of the injunction order may be postponed for a maximum of 24 hours, while the reasoning of the injunction order must be issued in no more than 48 hours from the order.

The injunction order is subject to appeal which must be filed in no more than five (5) days from the order was rendered if the parties were summoned, or, alternatively, from receipt of the reasoned decision in writing by the parties if the injunction order was issued *ex parte*.

3.7. Inadmissibility of the injunction relief in disputes regarding the first demand guarantee resulted from public procurement contracts (Decision no. 27/2020 of the High Court of Cassation and Justice – The Panel for Resolution of the Matters of Law)

By the Decision no. 27/2020, rendered on 2 March 2020, the High Court of Cassation and Justice decided that: *"In application of the provisions of Article 997 of the Civil Procedure Code and Article 53 pars. (2) of Law no. 101/2016 regarding the remedies and ways of appeals in the field of the award of public procurement contracts, sectoral contracts and works and service concession contracts, as well as for the organization and functioning of the National Council for Complaints Settlement, with the subsequent amendments and subsequent additions, establishes that the procedure of the injunction order is not admissible*

in the matter of suspension of the execution of a performance guarantee related to a public procurement contract."

In deciding so, the High Court of Cassation and Justice considered that, being an annex to the public procurement contract, the performance guarantee is an integral part of it, and the applications and actions to which the parties are entitled are those provided by the special law, respectively Law no. 101/2016, which refers to settlement of disputes resulted from public procurement contracts.

Under these circumstances, the existence of the special law – Law no. 101/2016 – which provides for the possibility to file an application for suspension of the execution of performance guarantee until the settlement of the substantive merits of the dispute based on Article 53 para. (2), allow for the interested party to use this procedural way only.

4. Suspension of the execution of first demand guarantees – the most frequent object of the applications for interim reliefs

All the construction and engineering standard forms of contracts used in Romania contains provisions regarding the obligation of the Contractor to provide to the Employer first demand letter of guarantee to ensure its contractual obligations (i) to repay the advance payment received from the Employer at the outset of the contract, (ii) to perform its obligations in a proper and timely manner, and (iii) to constitute the retention money guarantee.

All such first demand letters of guarantee are subject to the Romanian Civil Code and Uniform Rules for Demand Guarantees, 2010 Revision, ICC Publication No. 758 ("URDG").

Pursuant to Art. 2321of the Civil Code, the letter of guarantee is defined as *"the irrevocable and unconditional commitment by which a person, called the issuer, undertakes, at the request of a person named authorizing officer, in consideration of a pre-existent obligational relation, but independent of it, to pay a sum of money to a third party, named the beneficiary, in accordance with the terms of the assumed undertake."* The so-assumed commitment is executed at the first and simple request of the beneficiary, if the text of the letter of guarantee does not provide otherwise. The issuer of the letter of guarantee may not oppose to the beneficiary the exceptions based on the pre-existent obligational relation and cannot be held to pay in case of abuse or obvious fraud.

However, pursuant to Article 20 of the URDG, the issuer of the letter of guarantee (*i.e.*, the guarantor) has the obligation to examine any demand of payment received under the guarantee if it is a complying demand and to ensure the requested payment under the guarantee in no more than five (5) days after the receipt of the respective demand form the beneficiary (*i.e.*, the Employer).

Given the short period in which the authorizing officer (*i.e.* the Contractor) may resort to the interim reliefs in order to suspend an eventual abusive demand of the beneficiary regarding the payment under the letter of guarantee for a temporary period, and the numerous applications for interim reliefs related to the execution of such letter of guarantees issued under the construction and engineering forms of contracts, a question was raised as to the efficiency of the procedural means available to the Contractor in this regard.

5. The results of the research regarding the efficiency of the procedural means available to the Contractor to suspend an eventual abusive payment requested by the Employer under the letter of guarantee

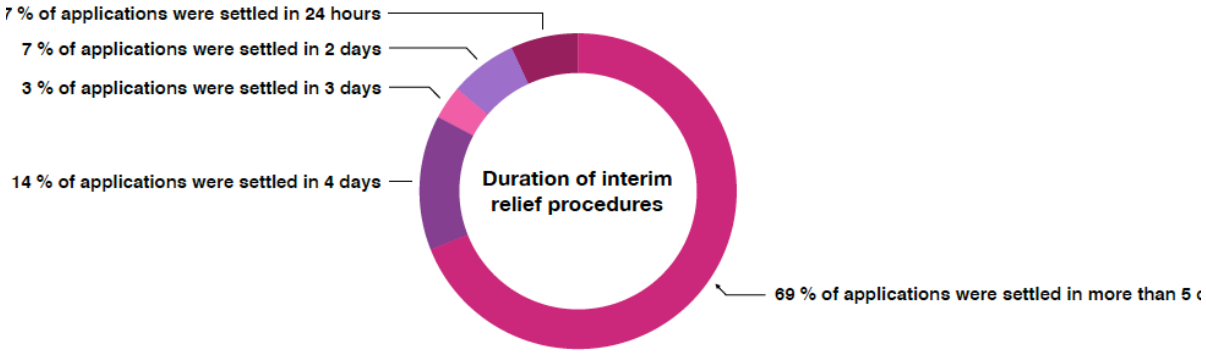
In order to analyze if the existent procedural means are sufficient to ensure a proper and timely juridical protection for a Contractor confronted with the abusive demands of payments made by the Employer under the standard construction and engineering forms of contracts applicable in Romania, we performed a research, taking into consideration the applications for interim reliefs registered with the Court of International Commercial Arbitration attached to the Chamber of Commerce and Industry of Romania and Bucharest Tribunal, and settled by the aforementioned institutions in 2019.

2019 was an extremely relevant year for such a study, because the number of applications for suspension of demands made by the Employer under the standard construction and engineering forms of contracts applicable in Romania was relatively high. This was due to the fact in 2019 it was encountered an important number of disputes between contractors and their employers, generated especially in connection with the construction of large public infrastructure projects like motorways, railways and civil buildings.

The study has taken into consideration the applications for interim reliefs by way of: (i) the emergency arbitrator procedure under the Rules of Arbitration of the Court of International Commercial Arbitration attached to the Chamber of Commerce and Industry of Romania, (ii) interim and conservatory measures adopted during the arbitration proceedings under the Rules of Arbitration of the Court of International Commercial Arbitration attached to the Chamber of Commerce and Industry of Romania, and (iii) injunction procedures in front of the state courts, by reference to the period of no more than five (5) days in which the issuer of the letter of guarantee (*i.e.*, the guarantor) has the obligation to examine any demand of payment received under the guarantee if it is a complying demand and to ensure the requested payment to the beneficiary (*i.e.*, the Employer), pursuant to the provisions of Article 20 of the URDG.

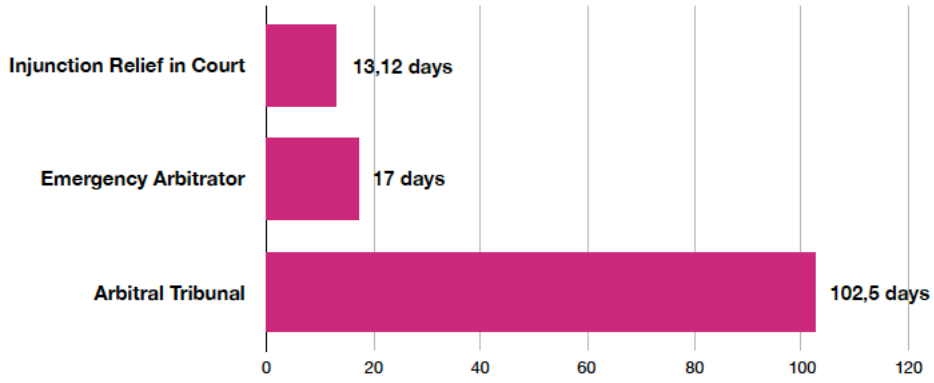
The results of the research revealed that 7% of the applications were settled by way of an *ex parte* proceedings in 24 hours. A total amount of 24% of the applications were settled in less than five (5) days, while in 69% of the cases, the interim relief proceedings exceeded five (5) days (please refer to Figure 1).

Figure 1 – Duration of the interim relief procedures



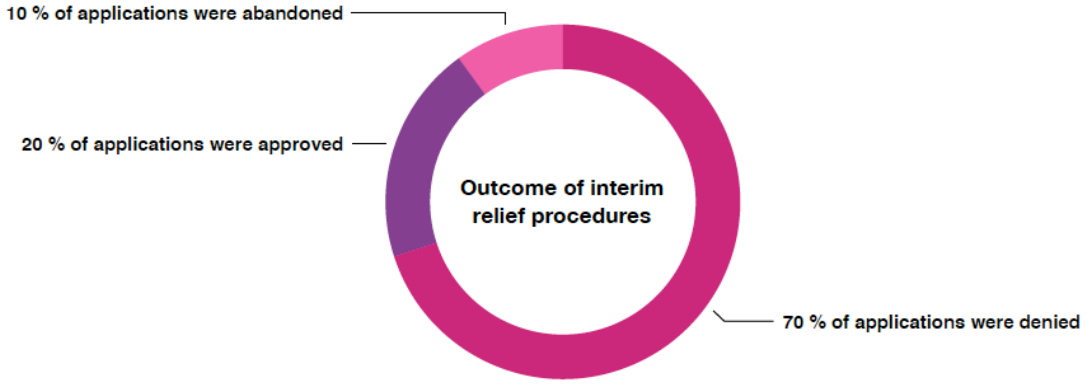
As far as the average duration of the interim relief procedures is concerned, in all three (3) types of procedural mechanisms, the average period needed for settlement of the applications were far above the five (5) business days provided by Article 20 of the URDG (please refer to Figure 2).

Figure 2 – Average duration of the interim relief procedures



From the perspective of the decisions adopted by the relevant courts with regard to the applications for interim reliefs, only 20% of the applications were

Figure 3 – Outcome of the interim relief procedures



approved, 70% being denied. Another 10% of the applications were abandoned because they remained without their object due to the excessive length of the proceedings, the letters of guarantee being executed within the five (5) business days period (please refer to Figure 3 below).

As a preliminary conclusion, it has to be noted that in practical life the effective duration of the interim relief proceedings is not aligned with the urgency imposed by the tight term provided by Article 20 of the URDG for payments to be made under first demand guarantees.

Other causes which delay the timely settlement of applications for interim reliefs lies in the constraints of the internal administrative proceedings of the courts, limited availability of arbitrators and judges, or in the insufficient understanding of the emergency of the matters referred to the relevant courts.

6. The necessity to align the dispute resolution proceedings with the new needs and challenges created by the adoption of new technologies in the construction industry

The experience acquired so far by the international construction industry shows that in many cases the management of the applicable dispute resolution procedures is not coordinated with the particular needs and requirements of the parties involved in construction and engineering contracts.

This circumstance, together with the adversarial culture of construction industry, the cost of using the legal system and the substantial time needed to arbitrate contractual disputes nurture the opportunistic behaviour of the parties materialized in deviation from the initial understanding recorded at the conclusion of contract to dishonestly improve their economic position within the contract[1].

Under these circumstances a careful adaptation of the existent dispute resolution procedures to the actual speed of the contractual mechanisms and economic exchanges specific to the construction industry is highly needed.

It is also noteworthy that the new information technologies like smart contracts, Building Information Modelling (BIM) and blockchain, expected to be fully implemented in the following years in construction projects, will come with their own legal risks and challenges which will require a re-design of the existent dispute resolution means and procedures in order to be addressed accordingly.

"Smart contract" is a concept used to describe a computer code that automatically executes all or parts of an agreement and is stored on a blockchain-based platform[2]. Once a construction and engineering contract will be concluded in writing, a corresponding smart contract, translating the will of the contracting parties in computer codes will be created. Thereafter, the contract will automatically execute the contractual actions based on the contemporary, real-time data (information) received from the common data environment (CDE) created within the Building Information Modelling (BIM) process. The security and immutability of records and contractual actions will be ensured by the blockchain technology.

The most important advantage of smart contracts technology is that, once the required conditions are fulfilled (pursuant to data shared by the involved parties in the CDE), the contractual obligations are executed automatically, in seconds, without human intervention. This means that all contractual procedures, which under traditional construction contracts depend by the will of a certain individual, *e.g.* application for an interim certificate, certification of works, determination, payment, contractual notices, etc., and usually take significant time to be concluded, will be executed instantly, without the delays usually generated by human behaviours and their opportunistic interests[3].

Automatic, instantaneous execution of contractual obligations will need adapted dispute resolution means and procedures, including new ways to obtain interim reliefs if necessary.

The analysis of the online dispute resolution systems and processes (commonly known as "ODR") developed in the recent years for blockchain dispute resolution can provide an accurate picture on how application for interim reliefs related to smart contracts would be settled in the near future.

a) **Juris** - The Juris framework operates where the parties adopted the Juris code in their smart contract. Once a dispute arises, the parties can suspend the contract and access the system through the Juris dashboard.

Same as in cases of dispute resolution clauses included in the traditional construction contracts, Juris comprise a multi-tiered dispute resolution process starting with a stage of mediation that can help the parties to reach a consensual agreement, called "SELF Mediation".

If parties are unable to reach an agreement, they can access the next stage of the process, *i.e.* "SNAP" (Simple Neutral Arbitrator Pool) where the parties receive a judgment by neutral jurors who anonymously vote on the case, and also provides a brief opinion on the case. After receiving the jurors' decision, the parties may return to the SELF stage and reach a consensual agreement.

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[1] For supplementary information regarding the opportunistic behaviour of the parties to a construction and engineering contract, and the implementation of smart contracts, Building Information Modelling (BIM) and blockchain technologies into construction industry, please refer to C.R. Rugină, *"Smart contracts technology and avoidance of disputes in construction contracts"*, 2021, page 10.

[2] S.D. Levi *et al.*, *"An Introduction to Smart Contracts and Their Potential and Inherent Limitations"*, in Harvard Law School Forum on Corporate Governance, 2018, page 1.

[3] C.R. Rugină, op. cit., page 10.

The final stage is the PANEL (Preemptory Agreement for Neutral Expert Litigation), provided for complex disputes that require the most experienced jurors (High Jurists) or for those disputes in which parties would like to reach a legally binding award under the N.Y. Convention. The decision of the PANEL must be reached within thirty days and once rendered, the smart contract between the parties will be rescinded, and the award will be automatically enforced.

It is noteworthy that on Juris platform the disputes are settled by three (3) types of jurors: (i) novice jurists (new users who can participate in discussions and evaluate disputes in SNAP stage but cannot decide cases), (ii) good standing jurists (jurors who vote on SNAP) and (iii) high jurists (professional arbitrators with high experience on Juris platform). The jurors may advance from one category to another based on the experience acquired on the platform and the quality of their decision-making which are evaluated by Juris by its reputational system for jurors.

b) **Sagewise** – The platform is able to identify the flaws of a smart contract (*e.g.*, coding error, security issues, contract does not reflect parties' will recorded at the conclusion of the contract), to suspend its execution allowing a dispute resolution process to take place, and to ensure the enforcement of the resolution.

In order to benefit of the services provided by Sagewise platform, the parties are required to include in their smart contract the "Sagewise SDK", a coded contractual clause which is the equivalent of the traditional dispute resolution clause.

Sagewise operates as a facilitator between the parties, using a combination of tools like suspension of the smart contract, time blocks and alerts which warn the parties on coding errors or other unforeseen events, contract allow the parties to prevent its execution prior to the occurrence of the imminent default. Sagewise also allows the parties to amend the contract and resolve the dispute through a resolution process conducted via a smart contract.

In the first stage of the resolution process parties are given the opportunity to resolve the dispute by reaching a consensual agreement by amending the code, changing the terms of the contract, etc. This interaction takes place while the execution of the smart contract has been suspended.

If this stage is unsuccessful, the smart contract will move on to the next phase, involving a human third-party facilitator, and expert advice on choosing a dispute resolution provider among those offered through Sagewise. It has to be emphasized that Sagewise does not itself provide dispute resolution services.

The resolution of disputes reached through the provider can be enforced by creating a new smart contract.

c) **RHUbarb/PeopleClaim** – This platform is based on the contribution of a numerous community of users, allowing people to submit claims and have the community resolve them based on the wisdom of the crowds.

The dispute resolution process is public, the parties being allowed to invite experts from the community (e.g., lawyers, doctors) to offer feedback on their case.

The RHUbarb dispute resolution mechanism is based on "poll verdicts". As it was noted in the literature: *"Conducting polls is a quick, inexpensive and democratic avenue for reaching decisions that are based on a broad consensus"*[4]. In any case, jurors whose vote was in the minority will be penalized. The results of the poll can serve either as a binding arbitral decision or as an expert opinion to be used by the parties in their negotiation or mediation endeavors or be submitted in court or arbitration.

Another avenue which may be used for dispute resolution on RHUbarb is the so-called "self-funding processes" in which jurors are rewarded for being collaborative and innovative in proposing creative solutions to the benefit of the parties.

There are also several other ODR platforms like Kleros, ECAF, Jury Online, Mattereum, Aragon, Jur which proposed various methods for resolution of disputes resulted from the performance of smart contracts.

Irrespective of the method used for dispute resolution, it is noteworthy that in the majority of situations, once a dispute has arisen, such platforms ensure the suspension of the performance of smart contracts until the merits of the dispute is settled, either by the consensual agreement of the parties, by vote of jurors, or otherwise. However, in all cases the resolution on the merits of the dispute cannot exceed thirty (30) days.

7. Conclusions

The experience acquired so far by the international construction industry and the research performed in 2019 with regard to applications for interim reliefs by way of: (i) the emergency arbitrator procedure under the Rules of Arbitration of the Court of International Commercial Arbitration attached to the Chamber of Commerce and Industry of Romania, (ii) interim and conservatory measures adopted during the arbitration proceedings under the Rules of Arbitration of the Court of International Commercial Arbitration attached to the Chamber of Commerce and Industry of Romania, and (iii) injunction procedures in front of the state courts, reveals that in many cases the management of the applicable dispute resolution procedures is not coordinated with the particular needs and requirements

[4] O. Rabinovich-Einy, E. Katsch, *"Blockchain and the Inevitability of Disputes: The Role for Online Dispute Resolution"*, in *Journal of Dispute Resolution*, Vol. 2019, page 68.

of the parties involved in construction and engineering contracts.

In the same time the new information technologies like smart contracts, Building Information Modelling (BIM) and blockchain, expected to be fully implemented in the following years in construction projects, will come with their own legal risks and challenges which will require a re-design of the existent dispute resolution means and procedures in order to be addressed accordingly.

Under these circumstances a careful adaptation of the existent dispute resolution procedures to the actual speed of the contractual mechanisms and economic exchanges specific to the construction industry is highly needed.

The online dispute resolution systems and processes (ODR) like Juris, Sagewise, RHUbarb, Kleros, ECAF, Jury Online, Mattereum, Aragon, Jur, developed in the recent years for blockchain dispute resolution, provide valuable insights on how application for interim reliefs related to smart contracts would be settled in the near future in order to ensure the best juridical protection for the parties to a construction and engineering contract.

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